

**Transmission Business Line
Non-Construction Alternatives Round Table Meeting
Meeting Minutes Summary
June 18-19, 2003**

Members present

Ken Canon, Industrial Customers of Northwest Utilities
Ralph Cavanagh, Natural Resources Defense Council
Art Compton, Montana Department of Environmental Quality
Tom Foley, Non-Wires Study consultant
Nancy Hirsh, Northwest Energy Coalition
Robert Kahn, Northwest Independent Power Producers Coalition
Paul Kjellander, Idaho Public Utilities Commission
Steve LaFond, The Boeing Company
Sue McLain, Puget Sound Energy
Kris Mikkelsen, Inland Power & Light Company
Bill Pascoe, Northwestern Energy
Margie Schaff, Affiliated Tribes of Northwest Indians, Economic Development Corporation
John Savage, Oregon Public Utility Commission
Brian Silverstein, Bonneville Power Administration
Vickie VanZandt, Bonneville Power Administration
Carolyn Whitney, vice president of TBL Business Strategy, Public and Tribal Affairs

Members absent:

Hardev Juj, Seattle City Light
Tom Karier, Northwest Power Planning Council, Washington state
Heather Rhoads-Weaver, Northwest Sustainable Energy for Economic Development
Dick Wanderscheid, city of Ashland

Observers and members of the public

Ken Corum, Northwest Power Planning Council
Jeffrey Utter, alternate for Northwest Sustainable Energy for Economic Development

Project staff present:

Mike Weedall, vice president of Energy Efficiency
Terry Oliver, public utilities specialist
Charles Alton, environmental protection specialist
David Le, public utilities specialist
Lawrence Carter, electrical engineer, TBL Network Planning
Mark Jackson, general engineer of Business Strategy Transmission Marketing
Toni Timberman, TBL account executive
Darby Collins, public affairs specialist
Sally Grabowski, communication assistant
Marion Cox, facilitator

Wednesday, June 18, 2003

Opening Discussion

Presentation by Brian Silverstein, TBL manager of Network Planning

Brian walked the Roundtable thru a roadmap of how the screening criteria, detailed studies, and pilots collectively will update the Transmission Business Line's planning process.

The goal of this meeting was to narrow the list of institutional barriers from 17 to five or six to be resolved in the next 12 to 18 months. A subgroup earlier identified a broad list of issues that are likely obstacles to successful implementation of non-construction solutions to high voltage transmission. Action Plans will be completed by September to successfully resolve the narrowed list of issues.

The detailed studies being performed in 2003 serve two purposes: refine screening criteria be used to determine which congestion problems are candidates for full study; and to help refine the study methodology for future detailed studies.

The 2003-2004 pilot programs will help resolve technical, economic, and market issues to implementation of non-construction alternatives. BPA is currently determining the budget for pilot projects and is looking for other interested parties (like retail utilities, etc.) to partner and help leverage the program.

Detailed Studies and Status

Presentation by Terry Oliver, public utilities specialist

(See PowerPoint presentation NCA Analysis Plan and Findings)

Currently BPA has hired the e3 consultants (Energy and Environmental Economics, Inc.) to train BPA personnel to do detailed non-construction analysis (10 people trained to date.) The Olympic Peninsula analysis will be done in June/July, McNary-Brownlee in July/August and Lower Valley (Jackson Hole) in August-September. The studies will assess sensitivities to load forecasts, construction cost estimates and the cost of penetration of the mitigation measures.

The Olympic Peninsula currently has a voltage stability problem for double contingencies and will be a problem for single contingencies in about five years. This is a winter peaking area, mostly resistive (heating) load. Possible mitigation includes conservation and distributed generation. Demand response is the least-cost option but is not enough to provide entire solution. Still assessing load control, distributed generation and changes in commercial lighting.

The McNary – Brownlee project The McNary - Brownlee project in Idaho is inductive load. It is summer peaking and the load comes from irrigation (pump), air conditioning and food processing plants.

The Lower Valley (Jackson Hole/Teton) area load has grown much faster than expected

(lots of driveway heaters and air conditioners.) Need to buy more, build or reduce load. Winter and summer problem – voltage collapse in winter and summer thermal. NIMBY is a problem when building transmission. There is some interest in fuel switching (to natural gas heating, etc.) but it is expensive – natural gas is trucked in and dumped in pipeline.

Discussion on the cost tests associated with non-construction alternatives

Members discussed the need to assess the RIM test and investigate creation of a new financial measure to calculate the rate/revenue impact of non-construction alternatives.

Alternative Measures

Presentation by Mike Hoffman, PBL public utility specialist

Major alternative measures under consideration include:

- Demand side management (targeted conservation and residential-end use control)
- Distributed Energy Resources (distributed generation such as the EnergyWeb demonstration project in the Olympic Peninsula pilot project, dispatchable resources such as the Tacoma EnergyWeb)
- Research and development (energy storage, biomass, small renewable monitoring)
- Some of these measures will require a cultural change for the Northwest, since the staff that handles and dispatches transmission and not use to handling alternative measures.

The full presentation is at:

<http://www2.transmission.bpa.gov/Projects/NonWire/NonWireDocs/PilotsProjects6-18-03.pdf>

Discussion of the Olympic Peninsula Pilot Project by TBL Engineer Mark Jackson

Two paper mills -- Daishowa and Port Townsend --are both interested in participating in the pilot. BPA is exploring a voluntary option to gauge customer response and will trigger the demand exchange to test the effect and the response. The pilot may cost approximately \$115,000/year to obtain 22 megawatts.

Discussion on inductive load versus reactive load

A shift from resistive load to inductive load makes it hard to predict how the system will respond long term. Members requested further information detailing the differences of inductive/reactive load.

Discussion on accuracy of load forecasts

BPA needs to educate customers about load forecasts and the importance of accuracy. If the forecasts are too high, customers need to understand that it may cost them more due to the fact that transmission must be built to meet those projections.

Institutional Barriers

Presentation by Tom Foley, Non-Wires Study consultant

Brian Silverstein, manager of TBL Network Planning

Institutional barriers probably represent greatest obstacle to achieving non-construction alternatives. The round table was formed to help figure out ways to address these institutional issues, many of which are bigger than BPA. The round table needs a game plan for figuring out a way to do this along with creating an action plan to specifically address key institutional issues.

A Round Table subcommittee narrowed down the list of institutional barriers hampering the least-cost approach to transmission planning (list is in no particular order). They focused on those offering the greatest leverage and the biggest bang for the buck.

1. Chinese wall between distribution and power in utilities, including BPA.

Inability to communicate freely between power and distribution and transmission business lines within a utility makes it more difficult to put together a comprehensive plan for serving loads. An RTO would help smooth over this barrier, or perhaps a non-wires group within a utility, but outside of any other established business line, reporting directly to the CEO.

2. Lost revenues for BPA and distribution utilities (DUs).

Any power saved at the end users facility will raise the rates charged by distribution utilities and transmission business lines, even as total costs are reduced. A mechanism (like decoupling profits from throughput) might have to be created to allow a utility to profit from doing what's right for ratepayers as a whole.

3. Lack of incentives for distribution utilities to do accurate forecasting.

TBL builds transmission based on peak load forecasts of customer utilities, including IOUs, but utilities pay only for what they ultimately use. Distribution utilities have incentive to forecast high, because this gives them a safety net, and more freedom in serving their loads at no cost to them.

4. Distribution utilities position between TBL and end users.

Many of the non-wires solutions contemplated are, or would be, controlled by end users of power. But TBL has no working relationship with these end users. The working relationship is between the distribution utility and the end users. If TBL wants to work with end users to effect non-wires solutions, and the utility does not want to, because of lost revenue, e.g., it may be a showstopper. TBL (or other transmission provider), the end user, and the distribution utility have to be able to work together to determine the overall value of non-wires alternatives, and to implement a strategy to acquire them.

5. Lack of transparency in transmission planning process and how non-wires alternatives can be employed.

Currently transmission planning takes place without a good understanding of what could be done as an alternative to a transmission line. Transmission planners are reactive. If

loads are forecast to grow, or if generators want to be hooked up to the grid, transmission is built to accommodate the “needs.” As such, transmission folks do not know what opportunities reside on the customer side of the meter, or with generation more strategically placed within the grid or distribution system. Better communication with distribution customers and their customers might make transmission planning more transparent and more receptive to new and innovative ideas.

6. TBL’s requirement to provide wires for generators regardless of location.

As above, transmission planning is reactive. If TBL could “suggest” strongly, and perhaps, give monetary incentives to owners of generation to site their plants in a more favorable area within the grid, transmission capital could be saved.

7. Inaccurate peak-load price signals for energy and T&D for most customers.

Most end-use customers pay average power and T&D rates. If they were to see the real price of serving loads at all times, they would undoubtedly adjust consumption to use power when the price of delivered power was low, and use less when it was high. This would have the effect of lowering peak loads (because power and T&D cost are high when the loads are high), and taking capital costs out of the system.

8. Multiple regulatory jurisdictions for both IOU and POU.

TBL sells transmission to public and IOUs. TBL has its rates approved by FERC. IOUs have their rates approved by state regulators, sometimes in multiple states, and publicly owned utilities have their own boards. Working through all of this political structure will be a challenge.

9. Who funds measures? Who implements? Different players from generation to distribution to end use.

Non-wires solution to transmission can take costs out of the delivery system all the way from the generator through to the end users. So, who pays for the measure? Distribution investments may be three times transmission investments. If we save transmission capital, how much distribution capital do we save and where? How should the costs be split? If siting a plant strategically saves transmission but costs the plant owner, who pays? What if it lowers power costs to distribution utilities? Are there incentives that have to be paid to end users to adopt transmission saving measures? Finally, who delivers? This may be something that is decided as we address issues, above.

10. Some people are uncertain about the reliability and persistence of measures.

Certainty about the reliability and persistence of measures will not come until more people have experience with the measures. Experience with the measures will not be widespread until we resolve some of the barriers. Also, we may need to provide pilot projects to prove out the effectiveness of some of the measures proposed measures.

11. Lack of uniform, simple and fair interconnection standards for distributed generation.

Many utilities in the past have been reluctant to allow distributed generation in their service territories, because they resulted in loss of control and lost revenue. As a result effective barriers were constructed to keep distribution generation from being a key player. Other more legitimate reasons for wanting to keep control over distribution generation were the safety issues related to distribution generation's interface with the rest of the distribution system. Downed lines could be energized by distribution generation systems without the correct instrumentation. FERC has a NOPR on interconnection standards that is in play now.

12. Multiple ownership of contiguous elements of the grid.

It is possible for load reductions to create congestion. For example, if eastern coal is serving a 500-MWe load in Spokane, and that load (or part of that load) goes away, there may be no place for the saved eastern coal-fired power to go, even if it were the least costly resource on the grid.

13. State of flux of industry (e.g. SMD and RTO)

The future in this region looks very different with and without an RTO. But, in the Northwest, it is not at all clear how the future will unfold relative to an RTO. One approach would be to stay with the current system. Another is to adopt FERC's standard market design (SMD) features under an regional transmission organization (RTO). A third might be to take what is good for this region out of SMD, and have a regional approach that is somewhere in between the SMD and today's practice, and recognizes the realities imposed on the system by the hydropower system.

15. Sponsors of targeted baseload energy efficiency measures potentially capable of delivering grid

Conservation measures have been installed in this region in volume since the 1980s. But, very seldom where they ever credited for the reduced congestion and increased reliability benefits that accompanied their installation. Under FERC's SMD they would get credit if certified. As the Round Table proceeds, we need to figure out the benefits that accrue to conservation measures of various types, and to enable entrepreneurs to reap those benefits through their programs. Congestion and reliability benefits cannot capture any of the associated economic value.

16. Nationwide, a crisis of confidence throughout the financial community is suppressing capital investment in grid, generation and demand-side assets.

In part, because of uncertainty over the future structure of the electric utility, many people have been reluctant to invest in the industry. During the crisis 2000-2001, many plants were started and many more were planned, but after the bottom fell out of the market, it has been difficult to attract capital to this industry. Current high natural gas prices are not helping. As for T&D, uncertainty about the structure of the industry and the resulting technologies that may or may be spurred by it, create even more uncertainty. For example, if technologies develop that can manage peak easily and with little cost to end users, the need for new transmission may be obviated.

17. Inability of PF utilities to resell BPA power.

If distribution utilities or their customers could sell power that they saved, it would provide an incentive to adopt the kinds of non-wires solutions we are looking for. But, PF customers are prohibited from doing so, even though, I think, they can sell unused transmission. Customers of IOUs who do have access to the wholesale markets are similarly prohibited from selling saved power. Thus, the savings in both cases (other than foregone costs) would accrue to others.

Prioritizing Institutional Barriers/Top Six

The Round Table prioritized the major institutional issues/barriers so the group can focus on them and work towards results. An action plan template will be created and the Round Table members will form subgroups to develop an action plan over the summer.

The issues were ranked by:

- 1 . How big an obstacle is the institutional issue?
- 2 . Can we lower this barrier/is it something that is doable?

Top Six Institutional Barriers

- #15/9. Who pays, who implements and how to capture economic value for efficiency measures
- # 5. Lack of transparency in transmission planning process and how non-wires can be deployed
- # 3. Lack of incentives for distribution utilities to do accurate forecasting
- #10. Uncertainty about reliability
- # 2. Lost revenues for BPA and distribution utilities
- # 7. Inaccurate peak-load price signals for energy and T&D customers

Policy Questions

In addition to the institutional barriers the Roundtable discussed four policy questions: refining the screening criteria, designing the 2004 pilots, refining the cost test, and reviewing the detailed studies. Roundtable members signed up to review advance each of these items.

Reports on the institutional issues and policy questions will be made at the October meeting.

Discussion on several operation issues and incidents where the system was overloaded

Vickie VanZandt outlines a number of unusual incidents for this early in the season. The round table members encouraged BPA to get this information out to the public.

Funding for pilot programs

Mike Weedall stated that BPA is considering allocating about \$4 million (from both TBL

and PBL) over the next three years towards pilot programs.

Action Items

- Paper on cost of service to inductive loads versus reductive loads.
Responsible: Vickie VanZandt and Brian Silverstein
- Clarify how non-construction measures will be evaluated and screened out. Is environmental review part of this?
Responsible: Mike Weedall and Mike Hoffman
- Gather information on transmission and resource siting from the Western Governor's Association
Responsible: John Savage and Brian Silverstein
- White paper from the round table (identifying problems and key challenges to addressing these problems. Summary of Round Table work)
Responsible: Carolyn Whitney and Darby Collins
- Inform and involve the broader Northwest stakeholders in this process
Responsible: Jennifer Eskil and Carolyn Whitney